

**BEFORE THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA**

REBUTTAL TESTIMONY OF

GLENN HUBBARD, PH.D.

ON BEHALF OF

SOUTH CAROLINA ELECTRIC & GAS COMPANY

DOCKET NO. 2017-370-E

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Robert Glenn Hubbard, and my business address is Graduate School of Business, Columbia University, 101 Uris Hall, 3022 Broadway, New York, New York 10027.

Q. ARE YOU THE SAME GLENN HUBBARD WHO HAS PREVIOUSLY FILED TESTIMONY IN THIS DOCKET?

A. Yes, I filed Direct Testimony on behalf of South Carolina Electric & Gas Company, referred to throughout my Direct Testimony as “SCE&G” or the “Company.”

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to the Direct Testimony of the following witnesses: Mr. Scott Rubin on behalf of AARP and Mr. Lane Kollen on behalf of the South Carolina Office of Regulatory Staff (“ORS”).

II. EXECUTIVE SUMMARY

Q. CAN YOU PLEASE SUMMARIZE YOUR OPINIONS WITH REGARD TO MR. RUBIN’S DIRECT TESTIMONY?

A. I find that an economic analysis of the facts and findings of the *Duquesne* opinion cited by Mr. Rubin is consistent with and supports the conclusions from my prior testimony. In fact, a contemporaneous economic study of that case, published by Drs. Kolbe and Tye, warned of the potential significant negative economic

1 consequences to investors and customers if the regulatory “rules of the game” are
2 changed after the fact in an opportunistic manner. This finding mirrors one of my
3 key opinions in this case.

4 Second, I note that there are at least two key differences between *Duquesne*
5 and this case, both of which support my opinions. First, the utility in *Duquesne*
6 operated in a traditional rate-making framework based on an *ex post* prudence
7 review, whereas the New Nuclear Development Project (“NND” or “NND Project”)
8 was completed under the BLRA, which is an *ex ante* paradigm. All else equal, this
9 difference would lead to a greater economic impact from an opportunistic
10 disallowance in this case than in *Duquesne*. Second, the Kolbe and Tye article
11 emphasizes that the Court’s decision in *Duquesne* was based in part on its finding
12 that the effect of an opportunistic regulatory regime change on a utility, as measured
13 by the size of the disallowance, must be “slight.” Here, the economic effect of the
14 regime change on SCE&G cannot be characterized as “slight.”

15 Third, I disagree with Mr. Rubin that traditional regulation requires that
16 investment projects enter rate base only if they are both prudent investments and
17 meet the used and useful standard. Indeed, as discussed in the aforementioned
18 study, the *Duquesne* opinion identifies four regulatory regimes, some of which do
19 not require both standards.

20 Fourth, Kolbe and Tye argue that a utility exposed to disallowance risk
21 should receive a risk premium, which would increase rates. Retroactively changing

1 the regulatory regime would result in forcing the utility to bear risk for which it was
2 not properly compensated.

3 Fifth, I agree with Mr. Rubin's conceptual point that a disallowance can
4 result in losses for both customers and the utility, consistent with the balancing
5 principle in *Hope*. I note that the Customer Benefits Plan in the proposed business
6 combination with Dominion Energy does impose significant losses on SCE&G, and
7 the Company has already suffered significant losses as evidenced by its significant
8 negative stock price reaction since the abandonment announcement. Based on an
9 event study, I estimate that SCE&G equity investors have lost \$2.1 billion or more
10 related to the abandonment and the related legislative and regulatory responses.

11 Finally, I disagree that the Axelrod study is a reliable basis for Mr. Rubin's
12 conclusion that SCE&G should have abandoned the NND Project by March 2013.

13 **Q. CAN YOU PLEASE SUMMARIZE YOUR OPINIONS WITH REGARD TO**
14 **MR. KOLLEN'S DIRECT TESTIMONY?**

15 A. Mr. Kollen proposes a number of adjustments to rates related to the NND
16 Project costs, the proposed business combination with Dominion Energy, and
17 changes to the tax law. Among these adjustments is making experimental rates
18 permanent. The net effect of these adjustments are significant proposed reductions
19 in revised rates: \$193 million in 2019 and \$160 million in 2020. He also proposes
20 additional reductions in annual rates of \$34 million to \$51 million related to a
21 proposed securitization of SCE&G's NND costs.

1 If all of Mr. Kollen's recommendations are approved by the Commission,
2 SCE&G would be allowed to recover just \$321.2 million (present value), or less
3 than 8 percent, of the \$4.0 billion in NND costs, excluding certain wholesale-related
4 and transmission costs, incurred to date by SCE&G, and just 26.1 percent of the
5 present value of rates under the Customer Benefits Plan, which includes significant
6 concessions to customers, including a \$1.3 billion refund.

7 Mr. Kollen focuses on the relief provided to customers through lower rates.
8 While customers may favor lower rates in a vacuum, a broader perspective is
9 necessary. To the extent that lower rates arise from a retroactive change to the law,
10 investors will be expected to respond to regulatory opportunism by increasing the
11 cost of capital going forward. Thus, the reduced rates that Mr. Kollen calculates are
12 likely to be temporary in nature.

13 Further, Mr. Kollen does not address the impact these significant cuts would
14 have on the financial integrity of SCE&G or its ability to provide safe and reliable
15 electric service to its customers.

16 Mr. Kollen's analysis also suffers from various flaws. First, by crediting
17 customers with both the return on the Toshiba Proceeds and a refund of revised
18 rates, he has effectively double-counted the benefits conferred to customers.
19 Correcting this flaw by excluding the return on the Toshiba Proceeds from Mr.
20 Kollen's model increases the present value of rates revenue in his model by
21 approximately \$83 million.

1 Despite the flaws in Mr. Kollen's logic, if one assumes that customers are
2 entitled to a return on the Toshiba Proceeds, a return calculated with an
3 economically appropriate interest rate would produce higher rates than calculated
4 by Mr. Kollen. Using Mr. Kollen's model, the increased present values of rates
5 revenues would range from approximately \$50 million to \$72 million, depending
6 on the type of interest rate used.

7 Second, Mr. Kollen incorrectly calculates a return on his refund of revised
8 rates using SCE&G's allowed rate of return. However, a lower rate is more
9 appropriate. Adjusting his analysis to avoid these flaws increases the present value
10 of rates revenue by \$18 million to \$26 million depending on the approach used.

11 Another flaw in Mr. Kollen's analysis is his estimate of SCE&G's cost
12 savings following the proposed business combination with Dominion Energy. He
13 estimates that such annual cost savings would lower SCE&G's rates by \$70 million
14 in 2020 based on his estimate that Dominion will reduce its costs by 33 percent
15 following the transaction. However, his 33 percent estimate is unreliable as it is
16 based on a sample of only two prior acquisition targets, both of which were 18 years
17 ago and neither of which involved an electric utility. His analysis is also incomplete
18 in that he does not consider other factors that may have caused the costs of those
19 two firms to decline, and he also does not evaluate the shifting of costs from those
20 target firms to their new parent.

21 **Q. HOW IS THE REMAINDER OF YOUR REBUTTAL TESTIMONY**
22 **ORGANIZED?**

1 A. The remainder of my Rebuttal Testimony is organized according to my
2 response to the Direct Testimony of each witness. Section III pertains to AARP
3 Witness Scott Rubin's testimony and Section IV discusses the testimony of ORS
4 Witness Lane Kollen.

5 **III. RESPONSE TO THE DIRECT TESTIMONY OF MR. RUBIN**

6 **Q. MR. RUBIN'S TESTIMONY STATES THAT: "[DR. HUBBARD]**
7 **DISCUSSES TWO DECISIONS OF THE U.S. SUPREME COURT THAT HE**
8 **SAYS PROVIDE THE 'APPROPRIATE LEGAL FRAMEWORK AND**
9 **REASONING THAT UNDERLIE TRADITIONAL RATE-OF-RETURN**
10 **REGULATION.'"¹ DOES THIS STATEMENT ACCURATELY**
11 **CHARACTERIZE YOUR DIRECT TESTIMONY?**

12 A. No. This statement implies that I was offering a legal opinion that the two
13 decisions (*Bluefield* and *Hope*) provide "the appropriate legal framework and
14 reasoning underlying traditional utility ratemaking." That is not correct. I stated
15 that those two decisions "address" the appropriate reasoning that underlies utility
16 ratemaking. I referred to selected language from those two decisions to note that it
17 reflected sound economic reasoning and policy, not to make a legal argument as Mr.
18 Rubin implies.

19 **Q. MR. RUBIN EXPRESSES SURPRISE THAT YOU DID NOT DISCUSS OR**
20 **CITE THE *DUQUESNE LIGHT CO. V. BARASCH* ("DUQUESNE")**

¹ Direct Testimony of Scott J. Rubin, Docket No. 2017-370-E ("Rubin Direct Testimony"), at 8.

**DECISION BY THE U.S. SUPREME COURT IN YOUR DIRECT
TESTIMONY.² HOW DO YOU RESPOND?**

A. Mr. Rubin appears to misconstrue my purpose in referring to *Bluefield* and *Hope*, which was to draw attention to language from two Supreme Court decisions that supports an economically sensible approach to utility rate regulation. I was not performing a legal analysis nor was I attempting to identify all potentially relevant legal decisions, Supreme Court or otherwise. That said, and because Mr. Rubin asserts that the *Duquesne* decision sets forth constitutional mandates important to this docket, I have reviewed the decision and an economic analysis of it. In doing so, I found that the key facts and economic substance of the *Duquesne* decision also support my opinions in this case.

**Q. PLEASE EXPLAIN WHY YOU BELIEVE THAT AN ECONOMIC
ANALYSIS OF THE *DUQUESNE* CASE SUPPORTS YOUR OPINIONS IN
THIS CASE.**

A. First, the core facts of the *Duquesne* case from an economic perspective are similar to this case in that they reflect a retroactive regulatory change. Indeed, in some ways, the changes in the *Duquesne* case, while similar in type to the present case, were less economically significant. Therefore, many if not most of aspects of the relevant economic analysis are similar.

Q. PLEASE EXPLAIN WHAT YOU MEAN.

² Rubin Direct Testimony, at 9.

1 A. Like the present case, the utility in the *Duquesne* case abandoned the
 2 construction of several nuclear plants and attempted to recover the plants’
 3 construction costs through higher rates.³ At every stage, these costs were
 4 determined to be both reasonable and prudent.⁴ Nevertheless, a month before the
 5 end of the rate proceeding: “the Pennsylvania legislature enacted a law that
 6 precluded inclusion of costs of construction of facilities in rate bases, prior to the
 7 time such facilities were ‘used and useful in service to the public.’”⁵ This law
 8 effectively required the regulators to exclude the abandoned nuclear plant costs from
 9 the rate base, thereby effectively making a retroactive change in the regulatory
 10 framework under which the utility had decided to build the plant.⁶

11 Similarly, in this case the South Carolina legislature (“Legislature”) just this
 12 year passed Acts 258 and 271 (“Acts”), which SCE&G contends retroactively
 13 changed the BLRA by implementing an “experimental rate” that removed from rates
 14 (or “disallowed”) the return on the costs of the NND Project that previously had
 15 been approved under the BLRA.⁷ In this proceeding, ORS effectively is proposing

³ Greenhouse, Linda, “High Court Rejects Charges by Utilities for Unused Plants,” *The New York Times*, January 12, 1989.

⁴ In 1982, the Pennsylvania Public Utility Commission approved a return *of* (though not a return *on*) the capital investment in the plants over a ten year period. Greenhouse, Linda, “High Court Rejects Charges by Utilities for Unused Plants,” *The New York Times*, January 12, 1989; Kolbe, A. Lawrence and William Tye (1991), “The *Duquesne* Opinion: How Much ‘Hope’ is There for Investors in Regulated Firms?” *Yale Journal on Regulation*, 8(1) (“Kolbe and Tye”), at 118-119.

⁵ Kolbe and Tye, at 118.

⁶ As discussed below, this law effectively attempts to change the regulatory regime from a “pure prudent investment” or *ex post* “modified prudent investment” regime to an *ex post* “used and useful” regime. See below for a detailed discussion of these terms.

⁷ The Acts effectively attempt to abrogate the *ex ante* “pure prudent investment” regime, as provided for in the BLRA, and replace it with a regime that effectively also allows application of an *ex post* “used and useful” standard as well as a prudency standard. The federal court decision denying SCE&G’s motion for preliminary injunction of the Acts

1 to endorse and expand the retroactive changes in the rules of the game begun by the
 2 Legislature including by effectively modifying the *ex ante* prudency regime under
 3 the BLRA to an *ex post* regime in which the “used and useful” standard is
 4 applicable.⁸ However, unlike the *Duquesne* case, in this case, the investments in the
 5 NND Project were deemed prudent *ex ante*, and investors expected that they would
 6 receive a return of and a return on their capital under the provisions of the BLRA
 7 even if the NND Project was abandoned. The BLRA regime, therefore, provided
 8 even stronger investor protections than in the *Duquesne* case, where investors
 9 expected that the prudency of the investment would be determined *ex post*, and thus
 10 were not necessarily guaranteed a return of or on the costs of the nuclear
 11 development at the time of their investment.⁹ In addition, in the *Duquesne* case, the
 12 costs incurred by Duquesne at the time of the abandonment in 1980 were \$34.7
 13 million (\$112.6 million in 2018 dollars),¹⁰ which represented only about two percent
 14 of the company’s rate base.¹¹ In comparison, the total costs that SCE&G had

is being appealed. *South Carolina Elec. & Gas Co. v. Randall*, No. 3:18-cv-01795-JMC, 2018 U.S. Dist. LEXIS 131587, at *4-*9, *38-*39 (August 6, 2018 D.S.C.).

⁸ I understand that the parties dispute whether the actual or proposed actions by the Legislature and ORS in this matter constitute a violation of the BLRA. For example, the parties dispute whether, following the abandonment decision in mid-2017, SCE&G still was entitled under the BLRA to collect a return on the NND Project costs (“revised rates”) (*See* Kollen at 26-28). In addition, the parties dispute whether the abandonment decision was made on a timely basis. The outcome of these disputes is not currently knowable. In this case, my opinions regarding the negative economic consequences of a retroactive change or abrogation of the BLRA assume that the actions of the Legislature and/or ORS, and the outcomes of disputes regarding the BLRA, violate the reasonable investment-backed expectations of market participants regarding the BLRA.

⁹ However, the Pennsylvania regulators did indeed determine that the investments were prudent and, therefore, the investors in *Duquesne* reasonably expected that they would therefore receive a return of their capital investment. Kolbe and Tye, at 118-119.

¹⁰ \$112.6 million = September 2018 CPI-All Urban Consumers / January 1980 CPI-All Urban Consumers × \$34.7 million = 252.4 / 77.8 × \$34.7 million.

¹¹ Greenhouse, Linda, “High Court Rejects Charges by Utilities for Unused Plants,” *The New York Times*, January 12, 1989.

1 incurred at the time of abandonment in 2017 were \$4.6 billion or about 55 percent
 2 of SCE&G's total electric rate base, which was approximately \$8.4 billion as of
 3 December 31, 2017.¹²

4 Although the Supreme Court ruled against the utility in the *Duquesne* case,
 5 “[t]he opinion did not entirely foreclose future constitutional challenges to the ‘used
 6 and useful’ standard for setting rates.”¹³ As stated in *Duquesne*: “No argument has
 7 been made that these slightly reduced rates jeopardize the financial integrity of the
 8 companies, either by leaving them insufficient operating capital or by impeding
 9 their ability to raise future capital.”¹⁴ In contrast, in this case, the proposed
 10 disallowances are both large relative to the company's rate base and are the result
 11 of an *ex post* change in a law that was supposed to prohibit the disallowance of costs
 12 that had been previously ruled to be prudent. Thus, the proposed disallowances in
 13 this case would cause the company's financial situation to deteriorate, as evidenced
 14 both by the decline in the company's stock price since September 2017 when ORS
 15 began requesting rate relief¹⁵ and by downward revision in the credit rating
 16 agencies' opinions.¹⁶

¹² 55 percent = \$4.6 billion / \$8.4 billion. See Exhibit No. ____ (RGH-1) for the NND costs incurred at the time of abandonment in 2017. See “Testimony Exhibits – December 2017 Test Year – Kollen Option.xlsx,” Tab “APPL_P1,” Cell C42 for SCE&G's total electric rate base.

¹³ Greenhouse, Linda, “High Court Rejects Charges by Utilities for Unused Plants,” *The New York Times*, January 12, 1989.

¹⁴ *Duquesne*, at 312-313.

¹⁵ See Exhibit No. ____ (RGH-2), Page 1, which I discuss further below.

¹⁶ See, e.g., Fitch Ratings, “Fitch Downgrades SCANA to ‘BB+’ / SCE&G to ‘BBB-’; Negative Watch Maintained,” September 29, 2017 (“While not part of Fitch's base case scenario, any permanent loss of BLRA-related revenues and associated write-offs would materially impair SCE&G's financial health, leading to multi-notch rating downgrades for SCE&G and SCANA depending on the repayment mechanisms and financing options available to them. In absolutely the worst-case scenario, if SCE&G is asked to refund to customers the \$1.8 billion collected to date under

Q. DOES MR. RUBIN DISCUSS THE CONCEPTS OF “PRUDENCY” AND “USED AND USEFUL” AS THEY ARE APPLIED IN UTILITY RATEMAKING PROCEEDINGS?

A. Yes. He states that: “... traditional regulation requires investment to be both prudently incurred and used and useful.”¹⁷ He also states that I “err[ed]” in using “the disjunctive (‘or’) in describing the inter-relationship of prudence and the ‘used and useful’ principle.”¹⁸

Q. DO YOU AGREE WITH MR. RUBIN?

A. No. I think he is confusing the relationship between the “used and useful” and “prudence” standards and their relationship to what I (and he) refers to as “traditional regulation” or “traditional utility rate regulation.”

Q. CAN YOU PLEASE CLEAR UP MR. RUBIN’S CONFUSION?

A. Yes. In *Duquesne*, the Supreme Court provided a classification of regulatory frameworks that are helpful to explain the confusion here. Two economists, Larry Kolbe and William Tye, published an article in the *Yale Journal on Regulation* that provides an economic analysis and discussion of the four separate utility “Ratemaking Regimes” that the Supreme Court discussed in *Duquesne*.¹⁹ The two

the BLRA and all stranded assets are disallowed, the financial viability of the companies could be threatened.”). See also Moody’s Investors Service, “Rating Action: Moody’s Confirms SCANA, SCE&G and PSNC, Rating Outlook Negative,” July 2, 2018; S&P Global Ratings, “SCANA Corp. and Subsidiaries ‘BBB’ Ratings Remain on CreditWatch Negative on Passage of South Carolina Bill,” July 3, 2018.

¹⁷ Rubin Direct Testimony, at 8.

¹⁸ Rubin Direct Testimony, at 8.

¹⁹ Kolbe and Tye, at 121-122.

1 that are most relevant here are the “pure prudent investment” regime and the “used
2 and useful” regime.²⁰

- 3 • The “pure prudent investment” regime: Under this regime, “all prudent
4 investments go into the rate base **regardless of whether they are used or**
5 **useful,”** and “[t]he investor thus would receive both a return *of* and a return
6 *on* capital for the canceled plants.”²¹ I agree with the authors’
7 characterization of this regime as the “traditional economic paradigm of rate
8 regulation.”²² Prudency determinations under this regime were most often
9 made after the fact, or on an *ex post* basis. Furthermore, and importantly,
10 “used and useful” is not a necessary condition under this paradigm. The
11 BLRA is a statutory codification of an *ex ante* version of a pure prudent
12 investment regime.²³
- 13 • The “used and useful” regime: The authors describe the “used and useful”
14 regime as a separate regime under which investors receive neither a return
15 of nor a return on their investment, even if the investment is deemed to have
16 been prudent, if regulators or lawmakers later determine that the investment

²⁰ Kolbe and Tye, at 121-122. The other two regimes are “modified prudent investment” (in which investments that are found to be prudent but not used and useful will earn a return of capital but not a return on capital) and “fair value” (in which investments can earn market-based returns that could be above or below costs).

²¹ Kolbe and Tye, at 121 (bold emphasis added).

²² Kolbe and Tye, at 118.

²³ I understand that, under the BLRA regime, the NND costs were determined to have been prudent in proceedings before the South Carolina Public Service Commission (“Commission”). Consistent with the traditional rate-making paradigm, the BLRA regime provides for *ex ante* (as well as ongoing) prudency determinations and, therefore, it is not known whether a plant will eventually become “used and useful” after the prudency determination. *See, e.g., Randall*, 2018 U.S. Dist. LEXIS 131587, at *4-*6.

1 is not “used and useful.”²⁴ The abandoned or canceled nuclear plants in both
2 the *Duquesne* and current cases did not achieve “used and useful” status.

3 In my testimony, I use the term “traditional” to refer to the *ex post* prudence
4 determinations that typically were used in utility regulation. In this context, the
5 distinction between *ex post* (the traditional approach) and *ex ante* relates only to the
6 timing of the determinations, while the distinction between a “used and useful”
7 regime and a “pure prudent investment” regime concerns the criteria for what can
8 be included in a utility’s rate base. For example, under a traditional “pure prudent
9 investment” regime, investments can be deemed prudent even if they never become
10 “used and useful.” As a news article covering the *Duquesne* decision noted in 1989,
11 only about half of U.S. states at that time employed a “used and useful” standard.²⁵

12 **Q. MR. RUBIN CONCLUDES THAT THE SUPREME COURT IN *DUQUESNE***
13 **GAVE “STATES AND UTILITY COMMISSIONS WIDE LATITUDE TO**
14 **DEVELOP RATEMAKING MECHANISMS AND APPROACHES THAT**
15 **BEST MEET THE NEEDS OF THE PARTICULAR CIRCUMSTANCES**
16 **THEY FACE. IN THE PENNSYLVANIA CASE REVIEWED BY THE**
17 **COURT, THE STATE LEGISLATURE CONCLUDED THAT AN**
18 **APPROPRIATE RESULT WAS TO PROTECT CONSUMERS FROM**
19 **PAYING ANYTHING FOR PLANT INVESTMENTS THAT NEVER**

²⁴ Kolbe and Tye, at 116, 122.

²⁵ Greenhouse, Linda, “High Court Rejects Charges by Utilities for Unused Plants,” *The New York Times*, January 12, 1989.

1 **PROVIDED SERVICE TO THE PUBLIC.”²⁶ DO YOU AGREE WITH MR.**
 2 **RUBIN’S CHARACTERIZATION OF THE *DUQUESNE* DECISION?**

3 A. No. While the Supreme Court did recognize that states have some discretion
 4 to develop their own ratemaking mechanisms, Mr. Rubin fails to recognize the
 5 Court’s consideration of “the constitutional range of reasonableness,” which led it
 6 to conclude that *Duquesne* did not amount to an unconstitutional taking because it
 7 found that the impact of the change in ratemaking regimes on the company was
 8 slight.²⁷ As stated in *Duquesne*:

9 No argument has been made that these slightly reduced rates
 10 jeopardize the financial integrity of the companies, either by leaving
 11 them insufficient operating capital or by impeding their ability to raise
 12 future capital. Nor has it been demonstrated that these rates are
 13 inadequate to compensate current equity holders for the risk
 14 associated with their investments under a modified prudent
 15 investment scheme.²⁸

16 Unlike *Duquesne*, in this case the proposed disallowances are both large
 17 relative to the company’s rate base and are the result of an *ex post* change in a law
 18 that was presumed to prohibit the disallowance of costs that previously had been
 19 ruled to be prudent. Thus, the proposed disallowances in this case represent a more
 20 significant departure from the “rules of the game” than in *Duquesne*, because the
 21 BLRA specifically codified an *ex-ante* prudence review process. Furthermore, the

²⁶ Rubin Direct Testimony, at 10.

²⁷ *Duquesne Light Co. v. Barasch*, 488 U.S. 299 (1989) (“*Duquesne*”), at 312-313; Kolbe and Tye, at 114.

²⁸ *Duquesne*, at 312-313.

1 proposed disallowances in this case would cause the company's financial situation
2 to deteriorate as discussed above.

3 **Q. ARE THERE ADDITIONAL WAYS THAT THE *DUQUESNE* DECISION**
4 **DIFFERS FROM THE CURRENT CASE?**

5 A. Yes. The Court in *Duquesne* made it clear that any increased regulatory risk
6 due to the discretion that state regulators have under the Constitution would need to
7 be reflected in a higher allowed rate of return in order to be consistent with *Hope*:

8 The loss to utilities from prudent but ultimately unsuccessful
9 investments under such a system [that has been modified to
10 incorporate a used and useful test] is greater than under a pure
11 investment rule, but less than under a fair value approach.
12 **Presumably the PUC adjusts the risk premium element of the rate**
13 **of return on equity accordingly.²⁹**

14 I have seen no evidence in this case that SCE&G's allowed rate of return was
15 increased to account for the risk that the BLRA would be abrogated after the fact
16 and that costs incurred and determined to have been prudent under the BLRA would
17 be disallowed. Rather, SCE&G's cost of capital would have been reduced due to
18 the presence of the BLRA, all else equal, due in significant part to investors' belief
19 that it reduced the regulatory risk of an *ex-post* disallowance. All else equal, this
20 lower cost of capital benefited SCE&G's customers by eliminating a potentially
21 prohibitive regulatory risk premium, which I discuss below.

²⁹ *Duquesne*, at 310-311 (endnote 7) (emphasis added).

1 While I do not offer a legal conclusion of the appropriate regulatory response
2 to a cancelled construction project, I do conclude that the economic analysis that
3 Kolbe and Tye applied to the *Duquesne* case provides clear economic insights into
4 what would happen when market participants observe a “pure prudent investment”
5 regime, such as the BLRA, is retroactively replaced by a regime that also applies a
6 “used and useful” test.³⁰ Specifically, as I described in my prior testimony, such an
7 action, if seen as opportunistic, will result in losses to the utility and its investors,
8 causing an increase in its cost of capital and a reduction in its incentive to invest,
9 both of which will cause harm to its customers and, potentially, other residents of
10 the state. Indeed, Kolbe and Tye reached similar conclusions:

11 High costs for new electric power plants have led to a series of
12 regulatory and legislative decisions that may retroactively rewrite the
13 rules that utility investors relied upon when they supplied capital for
14 these projects... The effect of [*Duquesne*] is to permit state regulators
15 to shift to investors losses from utility assets that are never used and
16 never shown to be useful.³¹

17 An important consequence of *Duquesne* is that retroactive changes in
18 the “rules of the game” become an inherent risk in regulation and will
19 be deemed proper as long as (a) the regulatory commission adjusts, *ex*
20 *ante*, the allowed rate of return to reflect the fact that the rules may
21 change during the game, or (b) the losses from the change are slight.
22 Investor perceptions of an increased risk of future regulatory change
23 are inevitable under these conditions, particularly given the
24 underestimated economic loss in *Duquesne*.³²

³⁰ Again it is important to note that Kolbe and Tye were analyzing a prudent investment regime with *ex-post* prudency reviews whereas, under the BLRA, prudency reviews were conducted on an *ex-ante* basis. Thus, in this case, the actual and proposed disallowances represent a qualitatively more significant departure from the “rules of the game.”

³¹ Kolbe and Tye, at 114.

³² Kolbe and Tye, at 153-154.

1 An economic environment with increasing business risk, combined
 2 with a perception of high regulatory risk, may cause serious problems,
 3 including underinvestment in regulated industries and economically
 4 inappropriate incentives for industry operation.³³

5 Unless regulatory institutions change to accommodate the economic
 6 realities identified above, failure to account explicitly for regulatory
 7 and other asymmetric risk will usher in a new era of an
 8 undercapitalized public utility sector. Regulated firms will have
 9 strong incentives to defer investment and utilize small scale
 10 technology that is below minimum efficient scale. We are already
 11 beginning to see a “reverse Averch-Johnson-Wellisz (A-J-W) effect,”
 12 whereby some public utilities will be starved for capital. Potentially
 13 inefficient forms of industry structure may also emerge as regulated
 14 firms minimize the assets exposed to opportunistic behavior by
 15 regulators.³⁴

16 **Q. ARE THERE ANY REGULATORY RESPONSES TO REMEDY THE**
 17 **PROBLEMS CREATED BY AN *EX POST* “USED AND USEFUL”**
 18 **REGIME?**

19 A. Yes. One is to increase the allowed rate of return to reflect the extra
 20 regulatory risk. But that adjustment is difficult to do accurately. A second is for:
 21 “... regulators ... to announce the rules of the game in advance of play and account
 22 for regulatory risk explicitly.”³⁵ Kolbe and Tye state, for example, that:

23 This scenario has the best chance of success if regulators choose
 24 ratemaking mechanisms that minimize regulatory risk and refrain
 25 from exploiting the window of constitutional magnitude by avoiding
 26 retroactive changes in the rules that are adverse to investor interests.
 27 If this is the approach, the (1) prudent original cost test is preferred

³³ Kolbe and Tye, at 154.

³⁴ Kolbe and Tye, at 154.

³⁵ Kolbe and Tye, at 154.

1 over the (2) modified prudent investment test, which in turn is
2 preferred to the (3) used and useful test.³⁶

3 This description is apt with respect to the motivation for and provisions of the
4 BLRA.

5 **Q. PLEASE SUMMARIZE YOUR TESTIMONY WITH REGARD TO THE**
6 ***DUQUESNE* DECISION AND THE CONCEPTS OF PRUDENCY AND**
7 **“USED AND USEFUL” IN THIS CASE.**

8 A. As I discuss above, certain facts of the *Duquesne* case are similar to those of
9 the current case, and an economic analysis of those facts, such as that performed by
10 Kolbe and Tye, also supports the opinions that I am offering here. Specifically, an
11 economic analysis of *Duquesne* highlights and clarifies the economic distinction
12 between the application of a “pure prudent investment” regime, such as the BLRA,
13 and the “used and useful” regime, including the application of a “used and useful”
14 standard that the South Carolina legislature and ORS have applied or are proposing
15 to apply retroactively in this case. Mr. Rubin’s view that both of these concepts are
16 required under traditional regulation is inconsistent with the taxonomy of regulatory
17 regimes articulated in *Duquesne*.

18 **Q. MR. RUBIN ALSO SAYS THAT “UTILITY REGULATORS HAVE**
19 **RESPONDED TO MAJOR PLANT CANCELLATIONS AND THE**
20 **RESULTING FINANCIAL DISTRESS BY LOOKING TO ESTABLISHED**

³⁶ Kolbe and Tye, at 154-155.

1 **REGULATORY PRINCIPLES.”³⁷ HOW DO THOSE PRINCIPLES APPLY**
2 **TO THIS CASE?**

3 A. I understand that historically, plants owned by investor-owned utilities that
4 ultimately were cancelled were constructed under the traditional regulatory
5 paradigm, in which investors were exposed to the risk of an *ex post* denial of
6 prudence. Presumably those investors recognized this possibility in forming their
7 expectations and setting the terms of their capital contributions. But in this case,
8 SCE&G began construction of the nuclear plants, and investors contributed capital,
9 under the BLRA paradigm. As explained above and at length in my prior testimony,
10 the BLRA was a departure from the traditional rate-making framework in that the
11 prudence determination was shifted from *ex post* to *ex ante*. The benefit of this shift
12 is that it reduces uncertainty for utilities and their investors, as well as their
13 customers, thereby mitigating the potential for underinvestment in large-scale
14 projects that can result from the traditional framework. This reduced uncertainty
15 can result in a lower cost of capital, which provides an economic benefit to
16 customers in the form of lower rates. In addition, the BLRA facilitated the NND
17 Project, which was expected to provide both lower cost power and significant fuel
18 diversification benefits to SCE&G and Santee Cooper customers as well as SCE&G
19 investors.

³⁷ Rubin Direct Testimony, at 5.

1 **Q. MR. RUBIN CONTINUES: “WHEN INVESTMENTS FAIL, THERE IS NO**
2 **QUESTION THAT INVESTORS WILL LOSE A SIGNIFICANT PORTION**
3 **OF THEIR INVESTMENT. BUT BECAUSE UTILITIES PROVIDE AN**
4 **ESSENTIAL PUBLIC SERVICE, CUSTOMERS MAY ALSO SUFFER IF**
5 **THEY ARE REQUIRED TO PAY HIGHER RATES TO ENSURE THE**
6 **CONTINUED VIABILITY OF THE UTILITY. THERE IS A LIMIT,**
7 **HOWEVER, TO HOW HIGH THOSE RATES SHOULD GO TO PROP UP**
8 **UTILITY INVESTORS. THE FAILURES IN WASHINGTON,**
9 **PENNSYLVANIA, AND NEW YORK THAT I SUMMARIZED ALL**
10 **RESULTED IN CUSTOMERS PAYING HIGHER RATES AND**
11 **INVESTORS SUFFERING SUBSTANTIAL LOSSES OF THEIR**
12 **INVESTMENT. NO ONE WINS, BUT A REASONABLE RESULT IS**
13 **REACHED THAT SHARES THE BURDEN OF THE FAILED**
14 **INVESTMENT.”³⁸ DO YOU AGREE?**

15 **A.** I do, in part. Mr. Rubin notes that both customers and investors suffered
16 losses in prior project failures. Such an outcome reflects a balancing of interest that
17 dates back to at least *Hope*.³⁹ Loss-sharing and balancing is a feature of both the
18 proposed business combination between Dominion Energy and SCANA and from
19 ORS in this case. The question becomes one of degree and depends on the particular

³⁸ Rubin Direct Testimony, at 8.

³⁹ *Federal Power Commission v. Hope Nat. Gas Co.*, 320 U.S. 591 (1944) (“*Hope*”), at 63 (“The ratemaking process under the Act, *i.e.*, the fixing of ‘just and reasonable’ rates, involves a balancing of the investor and the consumer interests.”).

1 facts of each case. What sets *this* matter apart from the others is the presence of the
2 BLRA.

3 This case is different because the BLRA assured investors that they would
4 be able to recover all investments deemed prudent by the Commission even if the
5 plant was not completed. In fact, the BLRA specifically contemplated the possible
6 abandonment of the Project and provided:

7 Where a plant is abandoned after a base load review order approving
8 rate recovery has been issued, the capital costs and AFUDC related to
9 the plant shall nonetheless be recoverable under this article provided
10 that the utility shall bear the burden of proving by a preponderance of
11 the evidence that the decision to abandon construction of the plant was
12 prudent. Without limiting the effect of Section 58-33-275(A),
13 recovery of capital costs and the utility's cost of capital associated
14 with them may be disallowed only to the extent that the failure by the
15 utility to anticipate or avoid the allegedly imprudent costs, or to
16 minimize the magnitude of the costs, was imprudent considering the
17 information available at the time that the utility could have acted to
18 avoid or minimize the costs. The commission shall order the
19 amortization and recovery through rates of the investment in the
20 abandoned plant as part of an order adjusting rates under this article.⁴⁰

21 This feature of the BLRA encouraged investors to provide capital on more
22 favorable terms than under a traditional rate-making framework, which would have
23 reduced the financing costs borne by customers. Retroactively exposing investors
24 to risks they did not agree to take would amount to changing the rules of the game
25 after it started and, as discussed in my prior testimony, such expropriation, if viewed

⁴⁰ S.C. Code Ann. Section 58-33-277 (K).

1 as opportunistic, would result in a higher cost of capital going forward and/or
2 reduced or inefficient investment by the utility.

3 **Q. IS IT REASONABLE TO BELIEVE THAT INVESTORS MIGHT NOT**
4 **HAVE CONTRIBUTED CAPITAL TO THE PROJECT WITHOUT THE**
5 **ASSURANCE OF THE BLRA?**

6 A. It is clear that investors contributed capital following SCE&G's disclosures
7 of the BLRA to investors in its SEC filings.⁴¹ It also is clear that the credit rating
8 agencies viewed the BLRA as supportive of large capital investments.⁴² In my
9 judgment, the BLRA would have been material to investors, and the Company
10 would not have been able to raise as much capital on the same terms in its absence.
11 In particular, in the absence of the BLRA, investors would have been uncertain
12 about whether the NND costs would be ruled prudent and, therefore, would have
13 been uncertain over whether they could have recovered their investments. This
14 uncertainty would have driven up the return demanded by investors and could have
15 potentially made capital unobtainable. As the authors of the economic analysis of
16 *Duquesne* concluded:

17 Unless regulatory institutions change to accommodate the economic
18 realities identified above, failure to account explicitly for regulatory
19 and other asymmetric risk will usher in a new era of an

⁴¹ See Exhibit No. ____ (RGH-3) and Exhibit No. ____ (RGH-4). See also SCANA Corporation Form 10-K for the Fiscal Year Ended December 31, 2008 for SCANA's discussion on "Rate Matters."

⁴² See, e.g., Moody's Investors Service, "South Carolina Electric & Gas Company: Update Following Downgrade to Baa3," March 9, 2018 ("The transparent and prescriptive features of the BLRA previously served to offset the company's elevated business risk profile as it embarked on an extremely large and complex project to build a new nuclear plant.").

1 undercapitalized public utility sector. Regulated firms will have
 2 strong incentives to defer investment and utilize small scale
 3 technology that is below minimum efficient scale.⁴³

4 **Q. DO KOLBE AND TYE APPLY AN ECONOMIC ANALYSIS TO**
 5 **QUANTIFY THE RISK PREMIUM ASSOCIATED WITH THE**
 6 **INCREASED PROBABILITY AND SIZE OF A DISALLOWANCE FROM,**
 7 **FOR EXAMPLE, ADDING A USED AND USEFUL TEST TO A PURE**
 8 **PRUDENT INVESTMENT REGIME?**

9 A. Yes. They quantify the risk premium associated with an increase in the
 10 possibility that regulators could disallow recovery of an investment, thereby
 11 exposing investors to an asymmetry in returns in which they are exposed to the
 12 downside but capped on the upside.⁴⁴ The regulatory risk premium represents the
 13 compensation investors require for exposure to this asymmetric distribution of
 14 outcomes. Their model incorporates a range of probabilities of a disallowance and
 15 a range of the potential size of such a disallowance in percentage terms.⁴⁵ They find
 16 a range of increases in the allowed rate of return ranging from 0.4 percent at 1
 17 percent chance of a 25 percent disallowance, to 345 percent at a 75 percent chance
 18 of a full disallowance.⁴⁶

⁴³ Kolbe and Tye, at 154.

⁴⁴ Kolbe and Tye, at 141-145.

⁴⁵ Kolbe and Tye, at 144.

⁴⁶ Kolbe and Tye assume a 15 percent cost of capital with a zero percent chance of a disallowance. The numbers discussed above are calculated by subtracting 15 percent from the numbers shown in Kolbe and Tye, Table 1, at 144: 0.4 percent = 15.4 percent – 15.0 percent; 345 percent = 360 percent – 15 percent.

1 **Q. CAN THE AUTHORS' FRAMEWORK BE USED TO ESTIMATE THE**
2 **MAGNITUDE OF THE POTENTIAL ECONOMIC HARM TO SCE&G**
3 **AND/OR ITS CUSTOMERS IN THIS CASE?**

4 A. Yes. First, it is important to realize that the economic losses to SCE&G's
5 investors and/or its customers can come from two sources, both of which stem from
6 the retroactive abrogation of the BLRA. The first source is the disallowance of costs
7 that regulators promised and investors believed would be included in rate base. Any
8 such disallowance will result in lower returns than investors reasonably expected
9 and lower future cash flows to SCE&G and its investors.⁴⁷ These lower future cash
10 flows will have a negative effect on SCE&G and its customers while reducing the
11 financial integrity of SCE&G and increasing its cost of capital, all else equal. This
12 increased cost of capital will harm customers to the extent that the higher cost is
13 passed along to them in rates. The second source of harm is an additional increase
14 to SCE&G's cost of capital due to investors' assessment of a higher level of
15 regulatory risk of investing in SCE&G. This second type of economic harm, which
16 ultimately will also be borne by customers, is what Kolbe and Tye's methodology
17 is designed to measure.

18 **Q. PLEASE DESCRIBE HOW THE KOLBE AND TYE MODEL CAN BE**
19 **APPLIED IN THIS CASE.**

⁴⁷ All else equal, lower rates due to regulatory disallowances of the NND costs will benefit customers and the economy of South Carolina in the short run. However, in both the short and longer run, these disallowances and lower rates, if approved, also will have significant offsetting negative economic consequences for SCE&G, its customers, and the state of South Carolina, including potentially leading to higher rates.

1 A. As discussed in my prior testimony, actions that violate reasonable investor
2 expectations under the BLRA will lead to an increase in investors' assessment of
3 the regulatory risk of investing in SCE&G or other utilities in South Carolina. Kolbe
4 and Tye's model is designed to estimate the potential harm from such an increase
5 in assessed regulatory risk. To accomplish this objective, they calculate a forward-
6 looking estimate of the increase in the cost of equity capital if there is a risk of a
7 change in the regulatory regime that increases the probability and size of a potential
8 disallowance, relative to the cost of equity capital under a "pure prudent investment"
9 regime.⁴⁸ In general, the results can be interpreted as one measure of the increased
10 cost of equity capital investors would demand due to an increased risk that their
11 investment will be excluded from rate base for unanticipated, possibly
12 opportunistic, reasons unrelated to the prudence of the investment. Table 1, below,
13 shows the additional return in dollars that investors would demand to supply capital
14 in the presence of increased regulatory risk, assuming \$1 billion in additional
15 investment and applying the Kolbe and Tye model.⁴⁹

⁴⁸ Kolbe and Tye, at 141-145.

⁴⁹ Additional detail on the assumptions and calculations used to generate these results as well as a sensitivity using alternative assumptions are provided in Exhibit No. ____ (RGH-5).

Table 1. Impact of Disallowance Risk on Cost of Equity (Millions of \$)

Probability of Disallowance (π)	Disallowance (d)			
	-25%	-50%	-75%	-100%
0%	\$0	\$0	\$0	\$0
1%	\$2	\$4	\$6	\$8
5%	\$13	\$22	\$31	\$40
10%	\$27	\$46	\$66	\$85
25%	\$80	\$139	\$197	\$256
50%	\$240	\$416	\$592	\$768
75%	\$720	\$1,248	\$1,775	\$2,303

As this table shows, the economic harm to SCE&G's customers under this measure can be very large. For example, assume that investors' perception of regulatory risk following the abrogation of the BLRA increases such that their assessed probability of a 50 percent investment disallowance rises from zero to 25 percent, on a hypothetical future investment of \$1 billion. In that case, customers would have to pay an additional \$139 million in higher capital costs, over and above a normal cost of capital, in order to offset the increased risk. Furthermore, this increase in cost likely understates the additional cost in this case because the Kolbe and Tye model is a single period model. Adding additional years would simply increase the estimated potential cost.

Q. DOES THIS REPRESENT A LOSS TO SCE&G'S INVESTORS, ITS CUSTOMERS OR BOTH?

A. The application of the Kolbe and Tye model that I describe above is meant to illustrate the magnitude of the increased cost of capital that will prevail in the future to the extent that the Commission's ruling in this case is perceived as

1 opportunistic in whole or in part. This increased cost of capital will harm SCE&G's
 2 customers through higher rates or inefficient investment going forward. Existing
 3 and future investors in SCE&G presumably will demand the higher cost of capital
 4 in exchange for bearing more risk.⁵⁰ Thus, the Kolbe and Tye model used in this
 5 way focuses on present and future investor and customer losses, not on historical
 6 losses. However, the Kolbe and Tye model conceptually could provide one measure
 7 of the magnitude of the actual economic losses suffered by SCE&G investors.

8 **Q. HOW COULD THE KOLBE AND TYE MODEL BE USED TO MEASURE**
 9 **ACTUAL LOSSES?**

10 A. In the course of its construction of the NND Project, all parties, including the
 11 Commission and SCE&G, believed the BLRA was a valid framework, and that
 12 SCE&G would receive a return of and on the costs it incurred under the BLRA.
 13 Further, SCE&G believed that under the BLRA it would receive a return of and on
 14 its investment even if it decided to abandon construction, as long as the
 15 abandonment decision was deemed to be prudent.⁵¹ Now, after the fact, it has

⁵⁰ As I discuss below, perceived increased regulatory risk due to the political and regulatory reaction to the abandonment decision is one reason why SCANA's shareholders suffered losses from a reduction in the market value of their securities.

⁵¹ SCE&G's belief that it would receive a return of and on its investment even if it decided to abandon construction is evident in several disclosures made by SCANA around the time of abandonment. For instance, SCANA Corporation's Form 10-K for fiscal year 2017 stated that: "The BLRA provides that, in the event of abandonment prior to plant completion, costs incurred, including AFC, and a return on those costs may be recoverable through rates, if the SCPSC determines that the decision to abandon the Nuclear Project was prudent." *See* SCANA Corporation Form 10-K for the Fiscal Year Ended December 31, 2017, at 14.

Similarly, in an analyst presentation on the day that abandonment was announced (July 31, 2017), SCANA CEO Kevin March noted: "Additionally, I want to highlight the abandonment provisions of the BLRA law that we will be seeking to apply to our project costs. The law contemplated this type of scenario when it was written. It allows for the recovery of project costs as well as an earned return in an abandonment scenario." *See* also New Nuclear Project Decision Analyst Call Transcript, July 31, 2017, at 8.

1 become apparent that the South Carolina legislature has decided to ignore the
 2 assurances that market participants believed were previously provided by the BLRA
 3 and retroactively change them. Thus, during construction, SCE&G's investors
 4 actually bore more regulatory risk than they thought they were bearing. But they
 5 received no compensation for bearing that extra risk. Conceptually, one could use
 6 the Kolbe and Tye model to quantify the value of the extra risk premium that
 7 SCE&G's investors would have required, if it was possible to determine investors'
 8 assessment of the probability of a disallowance, as well as their assessment of the
 9 likely size of the disallowance. Determining these inputs could be difficult.
 10 However, given the results in Table 1, and the actual committed NND costs of \$4.2
 11 billion (after write-off of \$490 million in 2017), such a calculation likely would
 12 produce a significant value for the harm.⁵²

13 **Q. ARE THERE OTHER, MORE PRACTICAL METHODS THAT CAN BE**
 14 **USED TO ESTIMATE THE ACTUAL ECONOMIC HARM THAT**
 15 **SCE&G'S INVESTORS ALREADY HAVE INCURRED?**

16 A. Yes, it is possible to get an approximate idea of the potential harm to
 17 SCE&G's shareholders to date by calculating the decline in the market
 18 capitalization of SCANA following the abandonment decision, after excluding the

On the same day SCANA reaffirmed its earnings guidance for 2017 and maintained its 3-5 years EPS growth and 55-65 percent dividend payout at the same levels in the post abandonment period as in the prior period. This guidance is consistent with SCANA's belief that it would receive a return of and on its investment even after abandonment of the nuclear project. *See* Analyst Conference Call presentation, July 31, 2017, at 12.

⁵² It is important to note that Table 1 only calculates the equity impact. To the extent that SCE&G's debt also would have been priced at a higher yield, SCE&G's lenders also suffered harm by bearing higher than expected regulatory risk. The NND costs of \$4.2 billion represent NND costs after SCE&G's write-off in 2017 of \$490 million of the \$4.6 billion total NND costs. *See* Exhibit No. ____ (RGH-1).

1 impact of factors other than the abandonment that also affect market
2 capitalization.^{53,54}

3 I measure the change in SCANA's market capitalization from just before the
4 announcement of the abandonment on July 31, 2017 to December 27, 2017, which
5 is the end of the week prior to the proposed business combination announcement on
6 January 3, 2018. I exclude from this measurement any change in market
7 capitalization that can be attributed to market or industry forces or to other non-
8 abandonment factors. My analysis is based on a methodology that is called an
9 "event study" or "cumulative abnormal return (CAR)" analysis. This is a standard
10 methodology that financial economists use to measure the impact of particular
11 events on the value of companies. This methodology is based on the well-known
12 and extensively examined theory that the markets for the securities of publicly
13 traded companies are informationally efficient and, therefore, the prices of these
14 securities reflect all material, publicly available information. As a result, the market
15 price of a security can be considered to be unbiased and the best available objective
16 measure of value.

17 **Q. WHY ARE THESE ANALYSES CALLED "EVENT STUDIES" OR**
18 **"CUMULATIVE ABNORMAL RETURN" ANALYSES?**

⁵³ Market capitalization in this context is the total dollar value of SCANA's issued and outstanding equity securities. My analysis here thus excludes any potential losses due to possible declines in the market value of SCANA's and SCE&G's debt securities.

⁵⁴ SCE&G is the largest of SCANA's wholly owned subsidiaries. At the end of fiscal 2017, SCE&G and affiliates contributed \$15.9 billion (or 85.1 percent) of SCANA's consolidated total assets of \$18.7 billion. For fiscal 2017, SC&G and affiliates contributed approximately 70 percent of SCANA's total operating revenue of about \$4.4 billion. (See SCANA Corporation Form 10-K for the Fiscal Year Ended December 31, 2017, at 61-63, 71-73.)

1 A. Event studies are used to determine how a specific public event, or a set of
2 events, affects the market price of a firm's securities. To make such a determination,
3 it is necessary to control for other observable factors that may also affect price, such
4 as changes in broad market or industry forces or firm-specific events other than
5 those that are being examined. The percentage change in the dividend-adjusted
6 price of the security (often referred to as a "return") that cannot be attributed to
7 observable factors other than the event of interest is referred to as the "abnormal"
8 or "excess" return. The sum of such abnormal or excess returns over time is referred
9 to as a "cumulative" abnormal return. The statistical significance of an abnormal
10 return, often measured over a short time period, such as a day or a few days, can
11 then be estimated. Researchers deem a statistically significant abnormal return to
12 be evidence of the impact of the event in question because, to the extent possible,
13 other observable causes for the stock price movement have been ruled out.⁵⁵

14 **Q. WHAT DOES YOUR CUMULATIVE ABNORMAL RETURN ANALYSIS**
15 **SHOW?**

⁵⁵ To implement this analysis I first developed a statistical model to control for the impact of market and industry forces on SCANA's stock price. (See Exhibit No. ____ (RGH-2), at 6.) The stock price changes that are left over after controlling for market and industry forces are those that might be due to firm-specific events such as the abandonment decision. Next, I identified specific days between the abandonment announcement and the merger announcement on which major news related to the abandonment and the expected regulatory response was released. To do this, I, or those working under my direction, performed an exhaustive search and review of all available public information that could be relevant to SCANA and the abandonment decision within this time frame. This review covered information included in disclosures made by the firm, industry analysts, and relevant news stories from January to December 2017 (using the *Factiva* database).

1 A. I detail my event study analysis of the change in SCANA's market
2 capitalization following the announcement of the abandonment decision in Exhibit
3 No. ____ (RGH-2).

4 The key results of my analysis are as follows:

5 (1) Between the abandonment announcement date and the proposed business
6 combination announcement date, SCANA's stock price fell by approximately
7 39 percent, from about \$62 to about \$38. This decline represents a reduction in
8 market capitalization of approximately \$3.4 billion.⁵⁶

9 (2) Of this total decline, I calculate that the portion that can be attributed to the
10 abandonment decision and the subsequent regulatory developments is in the
11 range of \$2.1 billion to \$2.5 billion. These amounts represent the range of losses
12 already incurred by SCE&G / SCANA shareholders due to the abandonment and
13 subsequent regulatory developments related to the rate reversal. I calculate the
14 upper and lower bounds of this range using two approaches:

15 (a) First, I consider the change in SCANA's stock price that cannot be
16 attributed to market or industry factors on each trading day from
17 September 21, 2017 (four trading days before the announcement of ORS'
18 request to SCPSC for rate relief on September 27, 2017) and ends
19 December 29, 2017 (the last trading date in the week prior to the proposed
20 business combination announcement on January 3, 2018), a total of 70

⁵⁶ Exhibit No. ____ (RGH-2), at 1.

trading days.⁵⁷ The implicit assumption is that the entire price change over this period, after removing the impact of market and industry factors, can be attributed to the abandonment decision and the subsequent rate reversal developments.⁵⁸ The decline in SCANA's market capitalization over the period, net of market or industry factors, equals \$2.1 billion.⁵⁹

(b) Second, I consider a smaller set of 18 trading days within this period on which I can identify specific developments that are related to the abandonment decision.⁶⁰ The total decline in SCANA's market capitalization that cannot be attributed to market or industry factors equals \$2.5 billion when measured only over these select days.⁶¹ As compared to the approach outlined in (a) above, this measure of the decline in SCANA's market capitalization is more stringent in terms of excluding non-abandonment factors that affect SCANA's stock price.

⁵⁷ The time period over which I measure the abnormal returns extends from July 25, 2017 through December 29, 2017. Even though the abandonment announcement was actually made on July 31, 2017, I chose a start date of July 25, 2017 because equity analysts had started publishing reports stating that abandonment was highly likely a few days before the actual announcements. See, e.g., "SCANA Corp (SCG-\$65.64-NYSE): Potential Abandonment/Lowered From Buy To Hold," *Gabelli & Company*, July 28, 2017; "SCG – Downgrading to Sell – The Curtain Call Cometh," *Guggenheim*, July 28, 2017.

⁵⁸ This approach is based on buy-and-hold abnormal returns, which are calculated as the difference between the buy-and-hold (or compound) returns on SCANA's stock over the period and the buy-and-hold (or compound) returns on a risk-matched benchmark over the same period. An advantage of this approach is that, for measuring long-window returns, it can provide less biased and statistically more appropriate measurement of abnormal returns than other approaches. See Barber, Brad M., and John D. Lyon (1997), "Detecting Long-Run Abnormal Stock Returns: The Empirical Power and Specification of Test Statistics," *Journal of Financial Economics*, 43, at 341-372.

⁵⁹ Exhibit No. ____ (RGH-2), at 5, Row [9]. Using a measurement period beginning July 25, 2017 results in an even larger estimate of the decline in market capitalization (-\$3.0 billion). See Exhibit No. ____ (RGH-2), at 5, Row [10].

⁶⁰ This set of dates and the key development on these dates is identified in Exhibit No. ____ (RGH-2), at 5-6, columns [A]-[F]. This approach has the advantage that days unrelated to abandonment or the NND project can be excluded.

⁶¹ Exhibit No. ____ (RGH-2), at 4, Row [7]. Using a measurement period beginning July 25, 2017 results in an even larger estimate of the decline in market capitalization (-\$2.8 billion). See Exhibit No. ____ (RGH-2), at 5, Row [8].

1 The \$2.5 billion decline in market capitalization represents an estimate of
2 the economic harm that SCE&G's equity investors have suffered due to
3 the decision to abandon the construction of the nuclear power plant and
4 the subsequent regulatory discussion to disallow incurred costs from
5 being recovered.

6 (3) My analysis also shows that, as expected, there was little or no decline in
7 SCANA's stock price or market capitalization, net of industry and market
8 factors, following the abandonment announcement on July 31, 2017.⁶² At this
9 time SCANA investors expected that that SCE&G would be able to earn its
10 allowed rate of return on all of the incurred costs, as provided for in the BLRA,
11 and that the incurred costs would not be disallowed. It was not until ORS's
12 request for rate relief on September 27, 2017, a move that increased investors'
13 expectations not just of a disallowance but also of a change in regulatory regime,
14 that SCANA's stock price and market capitalization declined sharply.⁶³

15 The \$2.1 to \$2.5 billion decline in SCANA's market capitalization that I have
16 estimated reflects investors' expectation both of the amount of the disallowance and
17 of the consequences for firm value of heightened regulatory risk in South Carolina.
18 It should be noted that this measure captures the loss only to the equity investors.

⁶² Exhibit No. ____ (RGH-2), at 4, Row [1].

⁶³ Exhibit No. ____ (RGH-2), at 4, Row [2].

1 **Q. DOES THE PROPOSED BUSINESS COMBINATION PRICE**
2 **COMPENSATE SCE&G'S INVESTORS FOR THE ECONOMIC HARM**
3 **THAT THEY ALREADY HAVE INCURRED?**

4 A. The available evidence suggests that it does not. The proposed business
5 combination proposal sets the price for SCANA shares at a fixed amount of 0.669
6 shares of Dominion Energy's common stock.⁶⁴ To date, this offer has not been
7 withdrawn or modified. Economic intuition suggests that Dominion Energy's offer
8 will not necessarily compensate, dollar for dollar, for the economic loss that
9 SCE&G's investors have suffered due to an expected disallowance.

10 If regulators approve rates that are significantly less than investors and
11 Dominion Energy expected prior to the proposed business combination
12 announcement, then Dominion Energy will bear the brunt of the losses from the
13 reduced rates. Alternatively, Dominion Energy may withdraw the offer entirely,
14 meaning that the losses ultimately incurred by SCANA's shareholders could be
15 significantly greater than calculated here.

16 **Q. IN HIS TESTIMONY, MR. RUBIN CONCLUDES THAT: IN MARCH 2013,**
17 **"A PRUDENT UTILITY WOULD HAVE DECLINED TO SPEND MORE**
18 **MONEY ON THE PROJECT."**⁶⁵ **PLEASE DESCRIBE THE BASES OF MR.**
19 **RUBIN'S OPINION.**

⁶⁴ See Joint Application and Petition of South Carolina Electric & Gas Company and Dominion Energy, Inc., Docket No. 2017-370-E ("Joint Petition"), at 11.

⁶⁵ Rubin Direct Testimony, at 17.

1 A. Mr. Rubin's opinion appears to be based on his review of various Santee
2 Cooper documents indicating: (1) that there were significant construction delays and
3 deficiencies on the NND Project as of March 2013, (2) that Santee Cooper had tried
4 to sell a portion of the NND Project through a long-term power purchase agreement
5 ("PPA") to another utility and not found a willing buyer, and (3) that a study by a
6 consultant, Dr. Howard Axelrod, had found that the levelized cost of electricity from
7 a nuclear unit was greater than the levelized cost of electricity from a CCGT under
8 certain scenarios.⁶⁶

9 **Q. DO YOU AGREE THAT THESE FINDINGS PROVIDE A REASONABLE**
10 **BASIS FOR MR. RUBIN'S CONCLUSION?**

11 A. No. The appropriate analysis to determine whether to finish constructing a
12 facility of any type is to analyze the benefits of completing the project less the costs
13 yet to be expended, excluding sunk costs – *i.e.*, expenditures already made that
14 cannot be recovered, relative to the cost of abandoning the project and constructing
15 a different type of facility. Dr. Axelrod's analysis does not do this nor was it
16 performed for this purpose.

17 Instead, Dr. Axelrod was hired by Santee Cooper to assist with efforts to sell
18 a portion of the NND Project through a PPA and was asked "to assist in the
19 development and execution of a strategic marketing plan" for the V. C. Summer
20 ("VCS") units.⁶⁷ As an input into his marketing plan, Dr. Axelrod analyzed the

⁶⁶ Rubin Direct Testimony, at 11-17.

⁶⁷ Rubin Direct Testimony, Exhibit SJR-2, at 2.

1 levelized cost of electricity for a nuclear unit versus a CCGT under various
2 scenarios.⁶⁸ The scenarios considered by Dr. Axelrod do not appear to remove sunk
3 costs nor do they appear to consider the costs of abandoning the nuclear project.⁶⁹

4 Furthermore, although Mr. Rubin selects certain findings of Dr. Axelrod to
5 quote in his testimony, he ignores the conclusions that Dr. Axelrod reached based
6 on the same data. In particular, although Dr. Axelrod found that under certain
7 scenarios a CCGT had a lower levelized cost of electricity than a nuclear unit, such
8 as if natural gas prices remained low and no carbon tax was enacted,⁷⁰ Dr. Axelrod
9 concluded that:

10 It is very likely that natural gas prices will begin to rise and that global
11 warming issues will drive regulations that result in carbon mitigation
12 costs. While it may take a few years to realize these changes, the
13 economic advantage of VCS will become transparent.⁷¹

14 The VCS plants will someday be a valuable asset for Santee Cooper.
15 By the time these plants are operational, it is more than likely that a
16 rational assessment comparing base load nuclear to coal or CCGT
17 would demonstrate the economic and environmental advantage of
18 VCS.⁷²

⁶⁸ Rubin Direct Testimony, Exhibit SJR-2, at 5-7; Rubin Direct Testimony, Exhibit SJR-3, at 6-8; Rubin Direct Testimony, Exhibit SJR-11.

⁶⁹ For example, Dr. Axelrod reports that in his base case, the levelized cost of electricity from a new nuclear unit is \$94/MWh with a 90 percent confidence interval of \$72 to \$139/MWh. He then compares his estimates to those reported in the U.S. Energy Information Administration's Annual Energy Outlook for 2013, which range from \$104/MWh to \$115/MWh. *See* Rubin Direct Testimony, Exhibit SJR-11, at 4; "Levelized Cost of New Generation Resources in the Annual Energy Outlook 2013," *U.S. Energy Information Administration*, January 2013, at 5.

⁷⁰ Rubin Direct Testimony, Exhibit SJR-2, at 5-7; Rubin Direct Testimony, Exhibit SJR-3, at 6-8; Rubin Direct Testimony, Exhibit SJR-11, at 9-19.

⁷¹ Rubin Direct Testimony, Exhibit SJR-11, at 25.

⁷² Rubin Direct Testimony, Exhibit SJR-3, at 11.

1 Further, in discussing his conversations with utility executives who were
2 uninterested in committing to a PPA for the NND Project, Dr. Axelrod opined that:

3 Nuclear power, especially newer units are currently viewed by many
4 power system analysts as uneconomic and non-competitive when
5 compared to state-of-the-art CCGTs. This view of nuclear power
6 economics appears short sighted as it fails to consider future rising
7 natural gas prices and the cost of carbon emissions whether in the form
8 of a carbon tax or cap and trade protocol. Our studies found that there
9 is a high probability that nuclear power can be economically
10 advantageous to alternative state-of-the-art CCGT.⁷³

11 **IV. RESPONSE TO THE DIRECT TESTIMONY OF MR. KOLLEN**

12 **Q. PLEASE SUMMARIZE THE RELEVANT CHARACTERISTICS OF MR.**
13 **KOLLEN’S DIRECT TESTIMONY FROM YOUR PERSPECTIVE.**

14 **A.** Mr. Kollen proposes a number of adjustments to rates related to the NND
15 Project costs, the proposed business combination proposal, and the Tax Cut and Jobs
16 Act (“TCJA”). Key adjustments include the termination of the revised and
17 experimental rates, a proposal for recovery of the “net” NND Project costs as he
18 calculates them, a reduction in rates to reflect the impact of the TCJA, a reduction
19 in rates to assign potential proposed business combination costs savings to
20 customers, and a one-time reduction in rates to reflect a regulatory liability related
21 to the TCJA.⁷⁴ The net impact of all of these adjustments is a “recommendation”
22 that rates be reduced by \$193.3 million for 2019 and \$160.1 million for 2020,

⁷³ Rubin Direct Testimony, Exhibit SJR-3, at 4.

⁷⁴ Direct Testimony & Exhibits of Lane Kollen, Docket No. 2017-370-E (“Kollen Direct Testimony”), at 4.

1 according to his calculations.⁷⁵ He also recommends securitization of the “net”
 2 NND Project costs at proposed rates of either four or five percent.⁷⁶ Securitization,
 3 if adopted by the Commission, would further reduce rates by \$33.8 to \$50.9 million,
 4 for total reductions ranging from \$227.1 to \$244.2 million in 2019 and from \$193.9
 5 to \$211.0 million in 2020, according to Mr. Kollen’s calculations.⁷⁷ In present value
 6 terms, his recommendations result in a “Present Value NND Cost Recovery” of
 7 \$785.2 million in his “ORS Recommendation” case and \$321.2 million in his “ORS
 8 Securitization” case, again according to his calculations.⁷⁸ Thus, if all of Mr.
 9 Kollen’s recommendations are approved by the Commission, SCE&G would be
 10 allowed to recover just \$321.2 million (present value), or less than 8 percent, of the
 11 \$4.0 billion in NND costs, excluding certain wholesale-related and transmission
 12 costs, incurred to date by SCE&G, and just 26.1 percent of the present value of rates
 13 under the proposed business combination Customer Benefits Plan, which includes
 14 significant concessions to customers, including a \$1.3 billion refund.^{79,80}

⁷⁵ Kollen Direct Testimony, at 5.

⁷⁶ Kollen Direct Testimony, ORS Exhibits LK-18, LK-19.

⁷⁷ Kollen Direct Testimony, at 10.

⁷⁸ Kollen Direct Testimony, at 8.

⁷⁹ Kollen Direct Testimony, at 8: \$321.2 million / \$1,230.5 million = 26.1 percent. The value of \$321.2 million is based on an assumption of a four percent securitization rate (Kollen Direct Testimony, ORS Exhibit LK-19) and relates to retail revenues only. Mr. Kollen also presents a securitization scenario based on a rate of five percent that produces a present value of revenue equal to \$477.0 million (Kollen Direct Testimony, ORS Exhibit LK-18, at 9). For purposes of these and other illustrations, I have used the present values calculated by Mr. Kollen. I do not express an opinion on whether these present values were correctly calculated.

⁸⁰ As shown in Exhibit No. ____ (RGH-1), SCE&G incurred \$4.6 billion in total NND costs, which is net of certain transmission costs, of which SCE&G decided to write-off \$490 million in 2017. Of the remaining \$4.2 billion, 96.83 percent was allocable to retail according to Mr. Kollen. Applying this percentage to \$4.2 billion leaves \$4.0 billion. I have excluded transmission costs and focused on retail to be consistent with Mr. Kollen’s calculations.

Q. HOW DO MR. KOLLEN'S RECOMMENDATIONS COMPARE TO THE PROPOSALS CONTAINED IN SCE&G'S MERGER PROPOSALS?

A. Mr. Kollen proposes significantly lower rates than in either the "No Merger Benefits" plan or in the "Customer Benefits Plan." According to his calculations, the Present Value of NND Cost Recovery would be \$2.7 billion under the No Merger Benefits plan and \$1.2 billion under the Customer Benefits Plan.⁸¹ Thus his recommendations reflect reductions relative to the Company proposals ranging from \$2.4 billion, when comparing the "ORS Securitization" case to the No Merger Benefit plan, to \$0.4 billion, when comparing the ORS Plan without securitization to the Customer Benefits Plan.⁸²

Q. MR. KOLLEN RECOMMENDS THAT THE EXPERIMENTAL RATE SHOULD BE MADE PERMANENT.⁸³ HOW DO YOU RESPOND?

A. As I describe in my Direct Testimony, I understand that the experimental rate amounts to a retroactive repeal or abrogation of the BLRA. All else equal, this retroactive or *ex post* change in law, to the extent that it is perceived to be regulatory opportunism, can be expected to have significant negative economic consequences for SCE&G, its customers and the state of South Carolina. Making this rate cut permanent, as recommended by Mr. Kollen, will simply exacerbate this harm through a further weakening of the financial condition of SCE&G and result in an

⁸¹ Kollen Direct Testimony, at 8.

⁸² \$2.4 billion = \$2.7 billion – \$321.2 million; \$0.4 billion = \$1.2 billion – \$785.2 million. Kollen Direct Testimony, at 8.

⁸³ Kollen Direct Testimony, at 8.

1 increase in SCE&G's effective cost of capital due to the perceived higher regulatory
2 risk of doing business. While lower rates from this recommendation may make
3 customers better off in the short run, they will face higher costs in the long run. Mr.
4 Kollen does not appear to consider or analyze these higher costs. In particular, he
5 makes no adjustment to his proposed allowed rate of return to reflect the higher
6 capital costs due to higher perceived regulatory risk. As a result, he also fails to
7 consider the disincentive to invest that would be created if his recommendation is
8 approved by the Commission.

9 **Q. MR. KOLLEN ALSO RECOMMENDS THAT THE NET NND PROJECT**
10 **COSTS SHOULD BE SECURITIZED. HOW DO YOU RESPOND?**

11 A. Securitization would lower rates even further and would represent yet
12 another departure from the rules of the game as specified by the BLRA. The
13 proposed securitized financing would represent a further reduction in the present
14 value of SCE&G's revenue. In particular, the present value of revenue with
15 securitization would be approximately \$464.0 million lower than the significant
16 reductions contained in the "ORS Recommendation," according to Mr. Kollen's
17 calculations.⁸⁴ This difference in present value arises from the fact that the "ORS
18 Recommendation" includes a rate of return equal to SCE&G's cost of capital (9.03
19 percent according to Mr. Kollen), whereas his securitization proposal applies
20 assumed rates of return of either four or five percent.⁸⁵

⁸⁴ Kollen Direct Testimony, at 8. \$785.2 million – \$312.2 million = \$464.0 million.

⁸⁵ Kollen Direct Testimony, at ORS Exhibits LK-17, LK-18, LK-19.

1 However, Mr. Kollen provides no justification or basis for his use of rates of
2 return of four or five percent. Additionally, using SCE&G's cost of capital to
3 compute the return on capital included in revised rates is more consistent with the
4 BLRA.⁸⁶ If Mr. Kollen's present value calculations are correct, then his
5 securitization recommendation would represent an *additional* significant economic
6 loss imposed on SCE&G that also would reflect a further abrogation of the BLRA.
7 In particular, Mr. Kollen recommends this further reduction in rates even on the
8 NND costs that he argues should be allowed.⁸⁷ This action, therefore, represents
9 not only an abrogation of the BLRA, but also of the traditional rate-making principle
10 in which the allowed rate of return (full cost of capital) is applied to the approved
11 rate base. Securitization is therefore more likely to be seen as regulatory
12 opportunism by investors, which would increase SCE&G's effective cost of capital
13 and cause the negative economic consequences I have previously described.⁸⁸
14 Again, customers may see a short-run benefit in the form of lower rates, but will
15 experience higher costs in the future that Mr. Kollen ignores.

⁸⁶ See S.C. Code Ann. Section 58-33-280 (B) ("A utility must be allowed to recover through revised rates its weighted average cost of capital applied to all or, at the utility's option, part of the outstanding balance of construction work in progress, calculated as of a date specified in the filing."). The rates of return suggested by Mr. Kollen would imply equity investors in SCE&G would be allowed to earn only a low rate of return on their investment.

⁸⁷ Kollen Direct Testimony, at 9-10.

⁸⁸ See, e.g., Moody's Investors Service, "Moody's Downgrades SCE&G to Baa3 and SCANA to Ba1, Ratings Remain Under Review," February 5, 2018 ("We also believe the politically charged environment will weigh heavily on the SCPSC as it looks to implement rates that are fair and reasonable, perhaps leading to rates that are authorized at unusually low levels or include provisions that significantly delay recovery. Events over the past few months have led us to conclude the regulatory environment for SCE&G has deteriorated markedly and is now considerably below average."). See also, Moody's Investors Service, "Rating Action: Moody's Places SCANA and SCE&G on Review for Downgrade," November 1, 2017 and Moody's Investors Service, "SCE&G Company: Update Following Downgrade to Baa3," March 9, 2018.

1 **Q. MR. KOLLEN FURTHER RECOMMENDS THAT ADDITIONAL NND**
2 **COSTS SHOULD BE DISALLOWED, BEYOND THOSE PROVIDED FOR**
3 **IN THE PROPOSED BUSINESS COMBINATION PROPOSAL.⁸⁹ HOW DO**
4 **YOU RESPOND?**

5 A. Mr. Kollen's recommendation that additional NND costs should be
6 disallowed is yet another recommendation that market participants likely would
7 perceive as a retroactive abrogation of the BLRA. Again, considered either alone
8 or together with Mr. Kollen's other recommended rate reductions and departures
9 from the BLRA, this additional recommendation would exacerbate the negative
10 economic consequences I have already discussed. Indeed, in all of these cases, Mr.
11 Kollen fails to consider the negative effect of his recommendations on the financial
12 condition of SCE&G, as well as the long-run negative effects on its customers and
13 the state of South Carolina. Specifically, as I stated in my previous testimony, a key
14 principle of economically sound utility rate design is that it should *balance* the
15 interests of the customers with the Company's interest in maintaining financial
16 integrity. In violation of this principle, Mr. Kollen recommends actions that will
17 lower customer rates, without regard to the consequences his recommendations have
18 on investor expectations and the Company's financial integrity.⁹⁰ His singular focus

⁸⁹ Kollen Direct Testimony, at 19.

⁹⁰ I note that Mr. Kollen offers what amount to *legal* conclusions and opinions for his recommended adjustments. *See, e.g.,* Kollen Direct Testimony, at 20 ("This return should have been deferred as a regulatory liability to offset the recovery through revised rates"), 23 ("Customers are entitled to the return on those proceeds from the dates the proceeds were received until the regulatory liability is fully amortized as a reduction to the NND costs recovered by SCE&G"). However, he is silent regarding the net *economic* impact of his recommendations.

1 on reducing rates creates the risk that the long-term harm to customers caused by
2 his recommendations will offset the benefit from temporarily lower rates.

3 **Q. HAVE YOU ATTEMPTED TO QUANTIFY THE LOSSES THAT SCE&G**
4 **SHAREHOLDERS ALREADY HAVE INCURRED?**

5 A. Yes. As described above, SCANA's stock price fell by approximately 39
6 percent, and its market capitalization fell by approximately \$3.4 billion in the period
7 that starts just before SCE&G's decision to abandon the construction of the NND
8 Project and that ends just prior to the merger announcement. The portion of this
9 decline that can be attributed to regulatory and political reaction suggesting that
10 rates would be reduced despite the presence of the BLRA ranged from \$2.1 to \$2.5
11 billion.⁹¹ While the proposed business combination announcement in January 2018
12 and the resulting increase in SCANA's stock price initially partially reversed these
13 losses, this partial reversal was largely temporary.⁹² These declines in SCANA's
14 equity value can be interpreted as indicative of the losses that SCE&G's
15 shareholders have suffered as a result of the decision to abandon the NND Project
16 and the resulting risk of regulatory disallowance of NND costs, *as well as* newly
17 formed perceptions of increased regulatory risk associated with investing in
18 SCE&G.

19 **Q. WHAT IS THE SIGNIFICANCE OF THESE RESULTS?**

⁹¹ The CAR related to the abandonment decision was not statistically significant, suggesting that investors initially believed that the BLRA would allow SCE&G to recover a return of and on its NND costs, despite the decision to abandon the Project. This evidence supports a finding that up until that date, investors had committed capital on the assumption that the BLRA would protect against regulatory disallowances, even in the case of abandonment.

⁹² Exhibit No. ____ (RGH-2), at 1, 4, Row [7] and 5, Row [8].

1 A. SCANA's shareholders already have suffered billions of dollars of losses
2 even considering the merger offer from Dominion Energy. For example, SCANA's
3 closing stock price on October 23, 2018 was \$37.46, which is about the same level
4 as the price just before the proposed business combination was announced.⁹³ If the
5 proposed business combination was approved today, without a change in terms,
6 SCANA's shareholders would receive about \$49 per share.⁹⁴ The fact that
7 SCANA's stock price is trading well below the proposed business combination price
8 suggests that investors believe either that there is a relatively low probability that
9 the proposed business combination will be consummated on the current terms, or
10 that it will be consummated at terms that are less favorable to SCANA's existing
11 shareholders, or both. In either event, this evidence suggests that SCANA's
12 shareholders may suffer additional losses in the future. The evidence that SCANA's
13 shareholders already have suffered billions of dollars of losses and that investors
14 believe that the proposed business combination proposal may be in jeopardy strikes
15 me as relevant evidence for the Commission to consider as it determines whether to
16 approve the proposal and, more broadly, to reach a decision that achieves a proper
17 long-term balance between the interests of SCE&G's investors and its customers,
18 and that avoids damaging the investment climate in South Carolina.⁹⁵

⁹³ The closing price of SCANA stock was \$37.46 on October 23, 2018 and \$38.87 on January 2, 2018, two days before the merger announcement. Stock price data from Bloomberg.

⁹⁴ The closing price of Dominion stock was \$72.91 on October 23, 2018. Applying the exchange ratio of 0.669, $0.669 \times \$72.91 = \48.78 . Stock price data from Bloomberg.

⁹⁵ I am aware that there are shareholder suits that conceivably could result in recoveries that reduce shareholder losses. However, I understand that those matters are in their early stages.

1 **Q. MR. KOLLEN ARGUES IN HIS DIRECT TESTIMONY THAT**
2 **CUSTOMERS ARE ENTITLED TO THE ENTIRE AMOUNT OF THE**
3 **TOSHIBA PROCEEDS.⁹⁶ HOW DO YOU RESPOND?**

4 A. Mr. Kollen does not state the basis for his contention that customers are
5 “entitled” to the entire amount of the Toshiba Proceeds.⁹⁷ As I discuss above,
6 economically sound regulation requires balancing the interests of both customers
7 and the investors who supply the capital. If regulators or politicians ignore or short
8 change investor interests in favor of customers, without a valid reason other than
9 that they want lower rates, then investors will not be willing to supply the capital
10 that is required to produce reliable and high quality utility service at reasonable
11 rates. Indeed, in this case investors committed capital to SCE&G in reliance on the
12 BLRA, which I understand entitles SCE&G to put all prudently incurred costs into
13 the rate base.⁹⁸ If that entitlement is applicable in this case then, all else equal, the
14 presumption should be in favor of SCE&G when the Commission is balancing the
15 interests of investors and customers.

16 **Q. WHAT ARE THE IMPLICATIONS OF THIS NEED TO BALANCE**
17 **CUSTOMER AND INVESTOR INTERESTS FOR MR. KOLLEN’S**
18 **ARGUMENT THAT CUSTOMERS ARE “ENTITLED” TO ALL OF THE**
19 **PROCEEDS?**

⁹⁶ Kollen Direct Testimony, at 23.

⁹⁷ The Toshiba Proceeds were composed of an approximately \$1 billion in funds that SCE&G received from Toshiba to settle SCE&G’s claim against Westinghouse for that firm’s guarantee under the fixed price contract between the parties. *See* Joint Petition, at 36.

⁹⁸ My understanding of the legal requirements of the BLRA comes from SCE&G legal counsel.

1 A. In contrast to Mr. Kollen's position that all of the Toshiba Proceeds belong
2 to customers, an economically logical approach would be to apportion the Proceeds
3 to customers and investors according to which of the two groups will bear the gross
4 losses under each proposal. In this case, SCE&G incurred \$4.6 billion in total costs
5 in building the NND Project through September 2017 when the Proceeds were
6 received.⁹⁹ In addition, customers arguably committed approximately \$1.7 billion
7 in capital in the form of revised rates revenues through that date.¹⁰⁰ Under the
8 Customer Benefits Plan, Dominion Energy and SCE&G have offered write offs and
9 disallowances totaling \$1.4 billion, or approximately 22.2 percent of the combined
10 gross loss by investors and customers.¹⁰¹ Arguably, therefore, under the Customer
11 Benefits Plan SCE&G's investors are entitled to approximately 22.2 percent of the
12 Toshiba Proceeds or \$243 million to offset their portion of the costs of the
13 abandoned plant.¹⁰² The percentage to which SCE&G's investors would be
14 economically entitled is even higher under Mr. Kollen's proposed disallowances,
15 because investors would bear more of the gross losses. After Mr. Kollen's proposed
16 refund of revised rates, securitization and other disallowances, investors would bear

⁹⁹ \$4.6 billion is actual costs incurred as of September 30, 2017 (before write-offs). This number represents company-wide total costs incurred, excluding transmission costs.

¹⁰⁰ Exhibit No. ____ (RGH-6).

¹⁰¹ 22.2 percent = \$1.4 billion / (\$4.6 billion + \$1.7 billion). See Exhibit Nos. ____ (RGH-1) and (RGH-6).

¹⁰² \$243 million = 22.2 percent × \$1.1 billion. See Kollen Direct Testimony, at 17.

30.4 percent of the losses and thus would be “entitled” to 30.4 percent of the Toshiba proceeds.¹⁰³

Q. HOW IS YOUR ANALYSIS AFFECTED BY THE FACT THAT DOMINION AND SCE&G OFFERED TO REFUND THE TOSHIBA PROCEEDS TO CUSTOMERS?

A. Dominion Energy and SCE&G have offered to refund approximately \$1.3 billion to customers under the Customer Benefits Plan, in addition to writing off the \$1.4 billion in costs as discussed above.¹⁰⁴ Furthermore, as I discuss above, SCE&G would be legally entitled to put all prudently incurred costs into rate base under its interpretation of the BLRA. Thus, to the extent that the refund offered to customers by Dominion Energy and SCE&G includes the Company’s investors’ portion of the Toshiba Proceeds, it should be recognized as a significant customer benefit and a concession on their part. That refund should not be viewed as simply paying customers what they are due, as implied by Mr. Kollen.

Q. MR. KOLLEN ARGUES THAT “SCE&G HAS OWED THE TOSHIBA PROCEEDS TO CUSTOMERS SINCE THE DATES ... THE FUNDS WERE RECEIVED FROM TOSHIBA AND CITIBANK, RESPECTIVELY” AND

¹⁰³ 30.4 percent = (\$1.4 billion + \$0.5 billion) / (\$4.6 billion + \$1.5 billion). \$1.4 billion and \$0.5 billion represent write-offs proposed by SCE&G and Dominion and additional write-offs proposed by ORS—see Exhibit No. ____ (RGH-1). As discussed above, customers have already contributed \$1.7 billion through revised rates to NND costs—see Exhibit No. ____ (RGH-6). Mr. Kollen’s proposed refund of revised rates amounts to approximately \$168.3 million through October 15, 2017, which would reduce the customers’ contribution through revised rates from \$1.7 billion to \$1.5 billion. \$168.3 million is estimated based on the average of the “Regulatory Liability Disallowed Revised Rates Revenues Subject to Refund” for September and October of 2017—see cells AK24 and AL24 on the sheet “REG LIAB REF REV RATES” in the file “ORS v Dom Customer Rate Impact 09.22.18 Full Refund Rev Rate.xlsx.”

¹⁰⁴ Kollen Direct Testimony, at 14-15.

1 **THAT UNDER A HYPOTHETICAL RIDER “THE TOSHIBA PROCEEDS**
2 **WOULD HAVE BEEN USED TO REDUCE THE NND COSTS AND TO**
3 **REDUCE THE REVENUE REQUIREMENT FOR THE SAVINGS IN**
4 **FINANCING COSTS. THIS SAVINGS IN FINANCING COSTS WOULD**
5 **HAVE BEEN CALCULATED AT THE GROSSED-UP RATE OF RETURN**
6 **AND WOULD HAVE FLOWED AUTOMATICALLY TO CUSTOMERS**
7 **THROUGH THE RIDER”¹⁰⁵ HOW DO YOU RESPOND?**

8 A. Presumably, Mr. Kollen and the ORS believe that a return on the Toshiba
9 Proceeds must be awarded to customers in order to make them whole. Specifically,
10 Mr. Kollen argues that customers are “entitled” to a return on the Toshiba Proceeds
11 equal to SCE&G’s grossed up rate of return because the Proceeds “would have been
12 used to reduce the NND costs” and “would have” resulted in lower financing costs
13 that “automatically” would have flowed through to customers.¹⁰⁶ According to this
14 logic, Mr. Kollen is arguing that customers are entitled to a refund of financing costs
15 they already have paid because the Toshiba Proceeds should have been offset
16 against NND costs, thereby reducing financing costs. However, he also separately
17 argues that the entire amount of “financing costs” on the NND Project – *i.e.*, total
18 revised rates revenue – should never have been charged to customers after the July
19 2017 decision to abandon the project and, therefore, should be refunded in their
20 entirety after that date plus a return.¹⁰⁷ The combination of the two

¹⁰⁵ Kollen Direct Testimony, at 21.

¹⁰⁶ Kollen Direct Testimony, at 21.

¹⁰⁷ Kollen Direct Testimony, at 27-28.

1 recommendations creates a logical conflict. Specifically, Mr. Kollen's refund of
2 revised rates puts customers in a position of having incurred no financing costs
3 beginning in August 2017. As a result, any additional credit to customers related to
4 financing costs since August 2017 would be a windfall to customers – *i.e.*, it would
5 push their financing cost below zero. By crediting customers with both a return on
6 the Toshiba Proceeds *and* a refund of revised rate revenue, Mr. Kollen's calculations
7 result in such a windfall. Put another way, you can only "refund" all of the financing
8 costs for the NND costs once.

9 **Q. HOW SHOULD THE COMMISSION ADJUST MR. KOLLEN'S**
10 **CALCULATIONS TO CORRECT FOR THIS LOGICAL FLAW IN HIS**
11 **ANALYSIS?**

12 A. One approach would be simply to exclude the return on the Toshiba Proceeds
13 from Mr. Kollen's rate calculations. I have done so using his spreadsheet. The
14 bottom line impact is that his recommended reduction in rates is smaller (rates
15 increase) by \$82.7 million in present value terms.¹⁰⁸ It is important to note that this
16 approach to quantifying the impact of correcting Mr. Kollen's logic assumes that
17 the Company would have had no obligation to provide a return on the Toshiba
18 proceeds to customers if it had stopped charging customers revised rates after
19 abandonment as assumed in Mr. Kollen's analysis. Whether that would have been
20 the case appears to be a legal question.

¹⁰⁸ When setting cells E36 and E38 to zero on the sheet "ORS LEVEL NND & REG LIAB" in the file "ORS v Dom Customer Rate Impact 09.22.18 Full Refund Rev Rate.xlsx," the "NPV of Revenue Requirement" in cell AA68 changes from \$785.2 million to \$867.9 million, an increase of \$82.7 million.

1 **Q. ASSUMING THAT, LEGALLY, CUSTOMERS ARE ENTITLED TO A**
2 **RETURN OF AND ON THE TOSHIBA PROCEEDS, IN ADDITION TO A**
3 **REFUND OF REVISED RATES AND A RETURN ON THAT REFUND, IS**
4 **THERE A DIFFERENT ECONOMIC COMPENSATION FRAMEWORK**
5 **UNDER WHICH A RETURN ON THE TOSHIBA PROCEEDS COULD, IN**
6 **FACT, BE INCLUDED AS AN ADJUSTMENT TO FUTURE RATES?**

7 A. Yes. An alternative framework for compensating customers would be to
8 argue that all or a portion of the Toshiba Proceeds should have been refunded to or
9 earmarked for customers when the Proceeds were received.¹⁰⁹ In that case, to be
10 made whole, customers would be entitled to the present value of the Toshiba
11 Proceeds as of December 2018, calculated at an appropriate interest rate. From an
12 economic perspective, the appropriate interest rate is one that is commensurate with
13 the risk that the customers have borne from the date they “should” have received
14 their refund (October 2017), to the date of “payment” (December 2018, according
15 to Mr. Kollen), no more and no less. Investment returns are compensation for
16 bearing risk. If customers receive a return in excess of the risk they have borne,
17 then they will receive a windfall. Economically, this reasoning is similar to the
18 reasoning used to determine an appropriate prejudgment interest rate.

¹⁰⁹ I understand that, had SCE&G refunded the Toshiba Proceeds to customers, as a practical matter SCE&G likely would have had to issue additional long-term debt. This may have increased rates in the long run. In addition, as discussed above, refunding the entire amount of the additional required financing proceeds would overcompensate customers from an economic perspective, because logically a portion of the proceeds would have been attributable to investors in proportion to their share of the expected losses. However, to be consistent with Kollen’s assumption and the Customer Benefits Plan refund, I assume in this section of my testimony that the entire economic benefit of the Proceeds would have been or will be provided to Customers.

Q. WHAT IS THE ECONOMICALLY APPROPRIATE INTEREST RATE FOR CALCULATING THE RETURN ON THE TOSHIBA PROCEEDS UNDER THIS ALTERNATIVE FRAMEWORK?

A. Economic research has identified either a risk-free interest rate or SCE&G's debt rate as two interest rates that reflect the risk borne by the affected parties in situations such as this.¹¹⁰ First, in practical terms, SCE&G has not declared bankruptcy and is in a position today to provide customers with the economic benefit of the Proceeds in the form of a lower recovery of NND costs in rates.¹¹¹ Therefore, customers are not actually bearing any risk in the calculation and award of a return on the Toshiba Proceeds in this case. In other words, if a return on the Toshiba Proceeds is awarded, the customers are virtually certain to receive it. Therefore, one appropriate interest rate is the risk-free rate (the short-term U.S. Treasury bill rate).¹¹² Alternatively one can recognize that customers have borne the risk that SCE&G might have declared bankruptcy between the date the Proceeds were received and December 2018. Therefore, assuming that the customers' claim to the economic benefit of the Toshiba Proceeds is akin to an unsecured debt claim,

¹¹⁰ Fisher, Franklin and R. Craig Romaine (1990), "Janis Joplin's Yearbook and the Theory of Damages," *Journal of Accounting, Auditing & Finance*, 5(1); Patell, James, Roman Weil, and Mark Wolfson (1982), "Accumulating Damages in Litigation: The Roles of Uncertainty and Interest Rates," *The Journal of Legal Studies*, 11(2).

¹¹¹ In addition, as we stand here today, the Toshiba Proceeds are a known amount and, therefore, have no systematic risk associated with them. Systematic risk represents the portion of risk that is not diversifiable. Under standard finance theory, investors receive compensation for bearing systematic risk but do not receive compensation for bearing risk that is diversifiable. This is a "technical" argument for application of the risk-free rate, which has a zero risk premium. See, e.g., Brealey, Richard A., Stewart Meyers, and Franklin Allen (2007), *Principles of Corporate Finance*, New York: McGraw-Hill/Irwin, Chapter 9.

¹¹² Fisher, Franklin and R. Craig Romaine (1990), "Janis Joplin's Yearbook and the Theory of Damages," *Journal of Accounting, Auditing & Finance*, 5(1).

a second appropriate rate would be the rate on unsecured debt with comparable credit risk to SCE&G.¹¹³

Q. WHAT IS THE IMPACT OF THESE LOWER RATES ON MR. KOLLEN'S CALCULATIONS?

A. The return on the Toshiba Proceeds using the appropriate economic interest rates that I just described is calculated in Exhibit No. ____ (RGH-7). As shown in the exhibit, if these lower and more economically correct returns are incorporated in to Mr. Kollen's model, the following results are obtained:

Table 2. Impact of Using the Appropriate Economic Interest Rates to Calculate the Regulatory Liability for the Toshiba Proceeds (\$000s)

Assumed Return	Regulatory Liability for Toshiba Proceeds	NPV of Revenue Requirement
WACC (Kollen)	\$106,140	\$785,171
Cost of Debt	\$41,578	\$835,469
1-month Treasury Rate	\$14,073	\$856,896
Difference vs Kollen		
Cost of Debt	-\$64,562	\$50,297
1-month Treasury Rate	-\$92,067	\$71,725

¹¹³ Patell, James, Roman Weil, and Mark Wolfson (1982), "Accumulating Damages in Litigation: The Roles of Uncertainty and Interest Rates," *The Journal of Legal Studies*, 11(2). Presumably, if SCE&G had declared bankruptcy, the right of SCE&G to recover under the BLRA would have been litigated by the Bankruptcy Trustee on behalf of the bankrupt estate. See Michael, M. Beal, "Memorandum re: Potential Consequences of a SCANA/SCE&G Bankruptcy Filing if Future Collections under the Base Load Review Act Are Suspended or if the Base Load Review Act is Repealed or Deemed Unconstitutional," January 12, 2018, at 2-3. If customers won the right to a refund, including the Toshiba Proceeds, in that proceeding, I assume that the judgment likely would have been treated as a senior or unsecured debt claim. To be conservative, I assume in my calculations that any such judgment would have been treated as an unsecured debt claim. SCE&G does not have unsecured debt so I use the yield on an index of BBB-rated 20-year unsecured corporate bonds. From 2015 through present, SCE&G had an issuer credit rating of BBB and a weighted-average debt maturity of 19 to 20 years. See Exhibit No. ____ (RGH-7).

1 As the Table shows, using an economically appropriate interest rate to
2 calculate the return on the Toshiba Proceeds would increase future rate revenue
3 using Mr. Kollen's model by either \$50.3 million or \$71.7 million on a present value
4 basis, depending on the rate used.¹¹⁴

5 **Q. DID MR. KOLLEN CALCULATE THE RETURN ON HIS PROPOSED**
6 **REFUND OF REVISED RATES CORRECTLY?**

7 A. No. As with the Toshiba proceeds under the alternative economic
8 compensation framework, Mr. Kollen used SCE&G's grossed up weighted average
9 cost of capital, which is too high, to calculate a return on his proposed refund of
10 revised rates. This choice runs counter to his argument for the refund, which is that
11 SCE&G should have stopped charging revised rates beginning at the termination
12 date. Under this logic, customers were deprived of their funds each month from the
13 date of termination of the Project through December 2018. This argument is similar
14 to customers being deprived of the Toshiba Proceeds or the economic rights to the
15 Proceeds.

16 In both cases, customers can be considered to have borne either zero risk or
17 the risk of an unsecured debt claim on SCE&G's assets. From an economic
18 perspective, compensation for bearing these lower levels of risk should be
19 calculated at either the risk free interest rate or an unsecured debt rate.

20 **Q. HAVE YOU PERFORMED THESE CALCULATIONS?**

¹¹⁴ As noted previously, I do not offer an opinion on whether Mr. Kollen calculated the rates correctly.

A. Yes. Exhibit No. ____ (RGH-7), provides my calculations of the reduced return on the refund of revised rate revenue using the risk-free rate and SCE&G's unsecured debt rate. I also summarize these results in the table below:

Table 3. Impact of Using the Appropriate Economic Interest Rates to Calculate the Regulatory Liability for the Rate Refund (\$000s)

Assumed Return	Regulatory Liability for Rate Refund	NPV of Revenue Requirement
WACC (Kollen)	\$37,264	\$785,171
Cost of Debt	\$15,105	\$803,175
1-month Treasury Rate	\$5,014	\$811,325
Difference vs WACC		
Cost of Debt	-\$22,159	\$18,003
1-month Treasury Rate	-\$32,250	\$26,153

As the Table shows, using an economically appropriate interest rate to calculate the return on the Toshiba Proceeds would increase future rate revenue using Mr. Kollen's model by either \$18.0 million or \$26.2 million on a present value basis, depending on the rate used.¹¹⁵ This increase is additive with the increases (\$50.3 million or \$71.7 million), assuming the return on the Toshiba Proceeds is calculated properly.

Q. MR. KOLLEN RECOMMENDS A RATE REDUCTION OF \$35 MILLION IN THE FIRST YEAR AND \$70 MILLION IN THE SECOND YEAR AND ANNUALLY THEREAFTER IN THE FORM OF A MERGER SAVINGS RIDER FOR THE ESTIMATED SAVINGS IN OPERATING EXPENSES IF

¹¹⁵ As noted previously, I do not offer an opinion on whether Mr. Kollen calculated the rates correctly.

1 **THE PROPOSED BUSINESS COMBINATION IS IMPLEMENTED.¹¹⁶ DO**
2 **YOU AGREE WITH HIS ANALYSIS?**

3 A. I do not agree. Mr. Kollen's estimated merger savings of 33 percent are
4 based on an analysis of the change in costs for Hope Gas, Inc. ("Hope") and East
5 Ohio Gas Company ("East Ohio") after their acquisitions by Dominion Energy in
6 2000. This analysis is conceptually suspect for a number of reasons.

7 First, Mr. Kollen's estimate of cost savings is based on a small sample that
8 is not representative of the proposed Dominion Energy-SCANA business
9 combination. Mr. Kollen's estimate is based on a sample of only two companies,
10 Hope and East Ohio, which are natural gas utilities that do not provide electric
11 power service. In addition, these acquisitions occurred 18 years ago, and Mr. Kollen
12 does nothing to justify their current relevance.

13 Second, in estimating the expected cost savings of the proposed business
14 combination, Mr. Kollen arbitrarily assumes that the post-merger decline in
15 operating expenses that East Ohio and Hope experienced were entirely due to
16 merger synergies. Mr. Kollen did not control for other confounding factors that
17 could have influenced those costs. For example, it is plausible that costs would have
18 declined even absent a merger had these companies experienced a decline in output.
19 Indeed, as I show in Exhibit No. ____ (RGH-8), this is exactly what occurred for East
20 Ohio. Although East Ohio's operating expenses (excluding fuel costs) in 2002 were

¹¹⁶ Kollen Direct Testimony, at 12.

1 42 percent lower than the company's operating expenses (excluding fuel costs) in
2 1999, its revenue and volume of natural gas sold in 2002 were also 40 percent and
3 50 percent lower, respectively, than in 1999.¹¹⁷

4 Third, Mr. Kollen's methodology is flawed because he examines only the
5 costs incurred by the target firms and makes no attempt to control for offsetting
6 increases in costs to the parent company due to the acquisition. For example,
7 Dominion may have cut the legal teams from Hope and East Ohio, reducing
8 expenses on their books, but then increased the size of its own legal team to perform
9 the additional work associated with Hope and East Ohio.

10 **Q. WHAT ACTION DO YOU RECOMMEND THAT THE COMMISSION**
11 **TAKE WITH RESPECT TO MR. KOLLEN'S POTENTIAL MERGER**
12 **SAVINGS?**

13 A. For the reasons stated above, Mr. Kollen's analysis of potential merger
14 savings is unreliable and, therefore, I do not see a valid basis to include them in Mr.
15 Kollen's rate calculations. Furthermore, to the extent that quantifiable operating
16 cost savings are realized at the SCE&G level in later periods, rates can be reduced
17 through future rate proceedings.

18 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

19 A. Yes, it does.

¹¹⁷ I note that the version of Mr. Kollen's source document (AIR 7-8) that was provided to me was marked "revised." While the dollar amounts of expenses differ slightly from those in his testimony (at 60-61), the percentage changes are within one percentage point.